Remarks

The Amendments

Claim 11 has been amended to delete "a translatable portion" and to recite instead that the region of SEQ ID No. 1 to which the claimed nucleic acid hybridizes is "a coding portion of SEQ ID No. 1 between nucleotides 295 and 966, a coding portion of SEQ ID No. 3 between nucleotides 132 and 803, a sequence complementary to the coding portion of SEQ ID No. 1, or a sequence complementary to the coding portion of SEQ ID No.3." Claim 47 also has been amended to recite these coding portions of SEQ ID NOS:1 and 3. The recited coding regions are indicated in SEQ ID NOS:1 and 3, respectively. The amendment also is supported on page 15, lines 10-24 of the specification, which refers to the translated (*i.e.*, coding) portions of the rat (SEQ ID NO:1) and human (SEQ ID NO:3) nucleotide sequences, respectively.

This amendment adds no new matter.

The Rejection of Claims 11-13, 19-21, and 47-52 Under 35 U.S.C. § 102(e) and § 103(a)

The final Office Action maintained the rejection of claims 11-13, 19-21, and 47-52 under 35 U.S.C. § 102(e) and § 103(a) as being anticipated and/or obvious over Holton *et al.* (U.S. Patent 5,569,832; "Holton"). Applicants respectfully traverse the rejections.

Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Holton does not teach or suggest each and every element as set forth in the rejected claims.

Amended claim 11, the only independent claim of the rejected claim set, is directed to a purified nucleic acid. The purified nucleic acid is at least 12 nucleotides in length and hybridizes to a nucleic acid molecule in an *in situ* hybridization assay performed in a cell at 60°C in 4x SSC and 50% formamide. The nucleic acid molecule comprises "a coding portion of SEQ ID No. 1 between nucleotides 295 and 966, a coding portion of SEQ ID No. 3 between nucleotides 132 and 803, a sequence complementary to the coding portion of SEQ ID No. 1, or a sequence complementary to the coding portion of SEQ ID No.3."

Holton teaches nucleic acids that encode flavonoid pathway enzymes. The Office Action cites Holton as teaching a sequence, SEQ ID NO:20, that possesses 100% identity with residues 1083-1100 of SEQ ID NO:1, and would thus specifically hybridize with SEQ ID NO:1. Paper 20, page 3, lines 5-7. Nucleotides 1083-1100 of SEQ ID NO:1, however, are not included within the recited coding portion of SEQ ID NO:1 (nucleotides 132-803). Thus, Holton does not teach or suggest a purified nucleic acid which is at least 12 nucleotides in length and which hybridizes to the recited portion of the nucleic acid molecule of independent claim 11. Holton does not expressly or inherently teach each and every element recited in independent claim 11 or dependent claims 12, 13, 19-21, and 47-52. Thus Holton does not anticipate these claims.

Obviousness

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1970). Holton does not teach or suggest all the elements recited in the rejected claims.

As indicated above, Holton does not teach a purified nucleic acid that hybridizes to a nucleic acid molecule that comprises "a coding portion of SEQ ID No. 1 between nucleotides 295 and 966, a coding portion of SEQ ID No. 3 between nucleotides 132 and 803, a sequence

complementary to the coding portion of SEQ ID No. 1, or a sequence complementary to the coding portion of SEQ ID No.3."

Holton also does not suggest a purified nucleic acid that hybridizes such a nucleic acid molecule. Holton teaches nucleic acid sequences encoding flavonoids and oligonucleotides used to detect nucleic acid sequences encoding flavonoids. Holton also teaches nucleic acid sequences that can be used to amplify and sequence polynucleotides encoding cytochrome P450 enzymes. These nucleotide sequences do not suggest a nucleic acid sequence that hybridizes to the recited coding portions of an unrelated, *i.e.*, calcium regulated (CaR), nucleic acid. Thus Holton does not suggest the purified nucleic acid recited in independent claim 11 and dependent claims 12, 13, 19-21, and 47-52. Holton does not teach or suggest all the elements recited in claims 11-13, 19-21, and 47-52 and does not render these claims obvious.

Applicants respectfully request withdrawal of the rejections of claims 11-13, 19-21, and 47-52.

Respectfully submitted,
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Date: June 9, 2004

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